

Remarks on the synonymy of the Atlas of the Heterocera Sphingida and Noctuida, published as a portion of the results of the voyage of the "Frigate Novara," November, 1874; by R. H. STRETCH, of San Francisco, California.

The present paper is intended to give the result of the comparison of Plates 79 to 107 inclusive, (except figures 1-6 on Plate 82), with the collection of the British Museum, and the catalogues of the same published from 185-1866. These plates contain the groups usually classed by Entomologists between Sphinx and Noctua, and are contained in parts 1-7, 31, 32. and 35, of the Museum catalogues. The plates according to the foot-notes were edited between the years 1868-1873, while the cover to the Atlas sets forth that they were published collectively in November, 1874. It is not intended to follow the synonymy further than to indicate the identity of the species figured with the specimens existing in the British Museum, leaving for a future catalogue of these families, which I have in preparation, the question whether Mr. Walker's determinations have in all places been correct; as well as the question of generic distribution in which the Museum catalogue is notoriously defective.

Where there can be no doubt of the priority of names, that which should have precedence is indicated in more prominent type than the synonym.

A prompt notice of this publication becomes necessary from the fact that a not inconsiderable number of species have been previously described by the late F. Walker, Esq., from types in the British Museum cabinets. As these were all published before 1866, their names must stand except in cases of erroneous determination. It is greatly to be regretted that there is no letter-press accompanying the Atlas. Indeed, so far as the plates alluded to are concerned, there are not even localities attached to the species figured, or any mention of the place of deposit of the types. The latter is an important omission when we remember

that quite a large number of the species figured, were in all probability, not collected on the Novara voyage at all! The absolute comparison of some few species cannot be made for want of figures of the underside, and a certain amount of uncertainty sometimes arises from a knowledge of the fact that the coloring is defective in some cases, where the peculiarity of the markings, points out unmistakably the insect intended, as in the case of *Holocera Smilar*.

Upwards of fifty species are enumerated which exist in the British Museum cabinets, and were described in the catalogues of the Museum prior to 1867, but it is not strange that some of these should have been overlooked, from the fact of their erroneous location both in the collection and catalogue. The failure to recognize others such as *Eterusia transversa*, Walker and *Scaptosyle bicolor*, Walker is strange, for in spite of all that has been said about the defects of Mr. Walker's descriptions, I have been able to determine from the catalogue, a very large proportion of the species included therein.

In the case of some few species described by Mr. Butler subsequent to 1870, there may be a difference of opinion as to the priority of names. It has been argued that because these plates could be purchased in their uncolored condition, that their nomenclature should date from the year appended to the foot of each. To admit this would be to introduce a troublesome element into a nomenclature already sufficiently intricate. Whatever might be said in favor of admitting such a claim for plates never intended to be colored, and in which the details are consequently carefully worked out, it cannot for a moment be admitted for copper-plates intended to be colored, in which it is notorious that many of the details are left to the colorist. Such plates may be colored to represent several species, and in the absence of letter-press who is to tell whether a certain *Lithosia* for instance is to be white or drab, or a *Limacodes* green or brown? For such reasons as these I should give priority to Mr. Butler's names. In doing so I do not however ignore the right which every Entomologist has to the adoption of his manuscript names, where such may be known to the publisher of the species, nor would I for a moment be understood to underrate the value of

this most important contribution to Entomological knowledge, for this is beyond question.

Among the *Noctue* I recognize several species described by Augustus Grote, Esq., as well as by Mr. Walker, but I leave this section to those who possess a more intimate knowledge of the group than I can pretend to.

PLATE 79.

Fig. 1. *CASTNIA RUTILA*, Felder, belongs to the group of which *C. FONSCOLOMBEI* may be considered the type, and is closely allied to that species.

Fig. 3. *Castnia tricolor*, Felder, = *CASTNIA DIVA*, Butler, Lep. Exot., Pl. 17, fig. 1, (1870).

Fig. 6. *SYNEMON ICARIA*, Felder, = var. ? *SYNEMON LETA*, Walker. Differs as near as can be judged from the figure, only in having the black bands of the secondaries broken up into spots. In the absence of letter-press it is impossible to tell whether this is a permanent form or only an accidental variation.

Fig. 7, 8. *SYNEMON PARTHENOIDES*, Felder, is very near *SYNEMON SOPHIA*, White, sp., the maculations of the secondaries being similar, but the primaries longer, and their whitish markings more distinct. Bears about the same relation to *SOPHIA* that *ICARIA* does to *LETA*.

PLATE 80.

Fig. 1. *CHARAGIA FISCHERI*, Felder, is very near *C. RUBROVIRIDANS*, Walker, but the specimens in the British Museum of the latter species, are too worn to make the comparison absolute.

Fig. 3. *Pielus hydrographus*, Felder, = *PIELUS LABYRINTHICUS*, Cat. Lep. Het. B. Mus., 1578, (1856).

PLATE 82.

Fig. 15. *Letois similis*, Felder, = *NEERA LATISTRIGA*, Cat. Lep. Het. B. Mus., 1141, (1855).

Fig. 18. *Zygæna subdiaphana*, Felder, is not unlikely to prove identical with *Z. CONTRARIA*, Walker, which has the secondaries very pale reddish. At best it can only take rank as a variety of that species.

Fig. 19. *ZYGÆNA OCELLARIS*, Felder. The specimen in the British Museum has the ground color of the ocelli white.

Fig. 21. *EUCTENIA ZYGÆNYIDES*, Felder, is very near to, if not identical with *PROCRIS CONTRARIA*, Walker, which differs in having the abdomen luteous.

PLATE 83.

Fig. 7. *Heterusia microcephala*, Felder, = *ETERUSIA DIRUPTA*, Cat. Lep. Het. B. Mus., supp., 199, (1864).

Fig. 8. *Heterusia cicada*, Felder, = *ETERUSIA PULCHELLA*, var. ? Cat. Lep. Het. B. Mus., 436, (1854). Walker supposed his insect to be a variety of the *CHALCOSIA PULCHELLA*, of Kollar, but as this latter insect proves to be *CHALCOSIA PHALÉNARIA*, Kollar's name must sink, and Walker's be retained for this insect.

Fig. 18, 19. *Isochroma fallax*, Felder, = *SCIATHOS PUNCTIGERA*, Cat. Lep. Het. B. Mus., 752, (1855).

PLATE 84.

Fig. 2. *GONOMETA POSTICA* ♀, Felder, = *Pachypasa effusa*, Walker, Cat. Lep. Het. B. Mus. Walker described the ♂ under the name adopted by Felder.

Fig. 5. *OPSIRHINA FLEXICOSTA* ♀, Felder, = *O. DECORATA*, ? Walker. There is but little [if any] difference between these species except that the color of the latter is reddish instead of yellowish.

Fig. 9. *Rhinogyne calligama* ♂, Felder, = *Entometa obliqua*, Cat. Lep. Het. B. Mus., 973, (1855).

Fig. 10. *Rhinogyne calligama* ♀, Felder, = *PINARA CANA*, Cat. Lep. Het. B. Mus., 761, (1855). This latter insect is very closely allied to the *Opsirhina metaphæa* ♀, Walker, which differs in color, only in having the base of the secondaries dusky.

PLATE 88.

- Fig. 4, 5. HOLOCERA SMILAX, Westwood, = HENUCHA SMILAX, B. Mus. cabinet.

PLATE 89.

- Fig. 7. *Hyperchiria anableps*, Felder, = HYPERCHIRIA ABAS, Cat. Lep. Het. B. Mus., p. 1305, (1855). Reference being made to Cramer, Pap. Exot., 1, 121, pl. 77, fig. A.B.

PLATE 90.

- Fig. 3. ORMISCODES FUMOSA, Felder, is very nearly allied to and congeneric with *Dirphia semirosea*, Walker, from Mexico.

PLATE 93.

- Fig. 2. *Ormiscodes trisignata*, Felder, = DIRPHIA MULTICOLOR, Cat. Lep. Het., B. Mus., p. 1364, (1855).

PLATE 94.

- Fig. 3. HOMOCHROA ORNATA, Felder, is very near to, if not identical with *Taglia anthereata*, B. Mus. cabinet.

- Fig. 10. *Oligoclona chordigera*, Felder, = DASYCHIRA ANTICA, Cat. Lep. Het. B. Mus., p. 867, (1855).

PLATE 95.

- Fig. 8. OLIGOCLONA NERVOSA, Felder, = ? GAZULINA VENOSATA, Walker.

- Fig. 9. *Ochrogaster raptinacula*, Felder, = TEARA INTERRUPTA, Cat. Lep. Het. B. Mus., p. 850, (1855).

PLATE 96.

- Fig. 4. *Hyelora sphinx*, Felder, = HYELOREA EUCALYPTUS, B. Mus. cab. in part. Under the latter name, there are two species confounded in the B. Mus. collection, but the specimens corresponding with *H. sphinx*, Felder, appear to be Doubleday's types. (see H. EUCALYPTUS, Doubleday, Proc. Zool. Soc., 1848).

- Fig. 6. *Dicranura argentea*, Felder, = CERURA LITURATA, Cat. Lep. Het. B. Mus., 988, (1855).

o/

a/

PLATE 98.

- Fig. 17. *Chærotricha nobilis*, Felder, = ORGYIA JOSIATA, Cat. Lep. Het. B. Mus., 326, (1865). Felder's genus, = GOGANA, Walker, of which the type is ATROSQUAMA, Walker.

PLATE 99.

- Fig. 1. *DARALA ZONATA*, Felder, is very near *D. FERVENS*, Walker.
- Fig. 9. *Xenosoma nigricosta*, Felder, = ELORIA FLAVICEPS, Cat. Lep. Het. B. Mus., supp., 339, (1865).
- Fig. 10. *Xenosoma Erycinoides*, Felder, = ELORIA DISCALIS, Cat. Lep. Het. B. Mus., p. 1726, (1856).

PLATE 100.

- Fig. 19. *ZERENOPSIS LEOPARDINA*, Felder, is very nearly allied to and congeneric with *DEIOPEIA LEPIDA*, Walker.
- Fig. 26. *Isochrya eburneigutta*, Felder, = ENDYRA PHEDONIA, Cat. Lep. Het. B. Mus., p. 1685, (1856).

PLATE 101.

- Fig. 1. *Panthea Chavannesi*, Felder, = BATHYRA SAGATA, Cat. Lep. Het. B. Mus., supp., 403, (1865).

PLATE 102.

- Fig. 3. *Eucyrtia subulifera*, Felder, = RHIPHA STRIGOSA, Cat. Lep. Het. B. Mus., p. 273, (1854).
- Fig. 9. *Euplesia vittigera*, Felder, = AUTOMOLIS SPHINGIDEA, Perty. sp. The specimen of *E. vittigera*, Felder, in the Museum cabinet, does not differ appreciably from those labelled *A. SPHINGIDEA*, Perty.
- Fig. 10. *Euplesia ochrophila*, Felder, = APICONOMA OPPOSITA, Cat. Lep. Het. B. Mus., p. 260, (1854).
- Fig. 18. *Eucerea thalassica*, Felder, = ACRIDOPSIS MARICA, Cat. Lep. Het. B. Mus., p. 269, variety of same.

PLATE 103.

- Fig. 2. *Leptosoma maculosum*, Felder, = NYCTEMERA BIJUNCTELLA, Walker, Cat. Lep. Het. B. Mus., supp., p. 1880, (1866).
- Fig. 3. *Leptosoma tricolor*, Felder, = NYCTEMERA APICALIS, var., Cat. Lep. Het. B. Mus., p. 395, (1854). The band on the primaries of this species not unfrequently assumes a tendency to yellow.
- Fig. 9. *Esthema confluens*, Felder, = ESTHEMA CONFLUENS, Butler, Trans. Ent. Soc., pt. 1, (April, 1872).
- Fig. 10. *Esthema venosa*, Felder, = ESTHEMA SPECIOSA, Cat. Lep. Het. B. Mus., supp., p. 1873, (1866).
- Fig. 11. *Esthema calida*, Felder, = EUCYANE HYTASPES, Butler, P.Z.S., p. 82, (January, 1871), Lep. Exot., pl. 61, fig. 6, (April, 1874).
- Fig. 12. *Esthema jucunda*, Felder, = EUCYANE TEMPERATA, Cat. Lep. Het. B. Mus., pt. 7, p. 1656, (1856).
- Fig. 16. *Hyalurga irregularis*, Felder, = HYALURGA ALBOVITREA, Cat. Lep. Het. B. Mus., supp., p. 159, (1864).

PLATE 104.

- Fig. 4. *Stenele Aletis*, Felder, = CHRYSAUGE REPANDA, Cat. Lep. Het. B. Mus., p. 375, (1854).
- Fig. 7. POLYPTYCHIA FASCICULOSA, Felder, = ? JOSIA ERYNNIS, Cat. Lep. Het. B. Mus., p. 315.
- Fig. 12. *Josiomorpha longivitta*, Felder, = JOSIA PENETRATA, Coll. B. Mus., being but a large form of that insect.

PLATE 105.

- Fig. 2. *Terna major*, Felder, = PHÆOCHILÆNA BREVILINEA, Cat. Lep. Het. B. Mus., p. 469, (1854).
- Fig. 3. *Terna minuta*, Felder, = VIRBIA MENTIENS, Cat. Lep. Het. B. Mus., p. 471, (1854).
- Fig. 4. *Dioptis Erycinoides*, Felder, = DIOPTIS ITHOMEINA, Butler, Cist. Ent., iv, p. 87, (January, 1872). Lep. Exot., pl. 61, fig. 8, (April, 1874).

- Fig. 5. *Dioptis Salvini*, Felder, = *DIOPTIS NOCTILUCES*, Butler, Cist. Ent., iv, p. 88, (January, 1872). Lep. Exot., pl. 61, fig. 7, (April, 1874).
- Fig. 8. *Gnatholophia longinervis*, Felder, = *EUCONTHA SUBLACTIGERA*, Cat. Lep. Het. B. Mus., supp., p. 383, (1864).
- Fig. 22. *Josia lugens*, Felder, = *Josia hyperia*, Cat. Lep. Het. B. Mus., p. 306, which = *JOSIA PILARGE*, loc. cit. p. 305, (1854).
- Fig. 27. *Antiotricha varata*, Felder, = *MENNIS INTEGR*A, Cat. Lep. Het. B. Mus., supp., p. 181, (1864).
- Fig. 31. *Adelphoneura nerius*, Felder, = *GLISSA BIFASCI*ES, Cat. Lep. Het. B. Mus., supp., p. 186, (1864).

PLATE 106.

- Fig. 2. *AGANAIS RENIGERA*, Felder, is very near if not identical with *HYPSA MEMBLARIA*, Cramer, sp., which varies greatly in the amount of yellow on the wings.
- Fig. 3. *Aganais albifera*, Felder, = *HYPSA PLANA*, Cat. Lep. Het. B. Mus., p. 450, (1854).
- Fig. 4. *Agape cyanopygga*, Felder, = *HYPSA CHLOROPYGA*, Cat. Lep. Het. B. Mus., p. 455, (1854). *Hypsa analis*, is a synonym, being described from a specimen in which the spots are very pale.
- Fig. 5. *Termessa hamula*, Felder, = *TERMESSA DISCREPENS*, Cat. Lep. Het. B. Mus., supp., p. 265, (1864). The specimen in the Museum cabinet has lost the fringes to the wings, and hence shows the black round the emargination faintly.
- Fig. 8. *Cratosia parallela*, Felder, = *CISSURA DECORA*, Cat. Lep. Het. B. Mus., p. 489, (1854).
- Fig. 11. *Lithosia bifasciata*, Felder, = *CYLLENE TRANSVERSA*, Cat. Lep. Het. B. Mus., p. 544. (1854).
- Fig. 18. *Teinopygga reticularis*, Felder, = *DEIOPEIA EXTREMA*, Cat. Lep. Het. B. Mus., p. 573, (1854).
- Fig. 23. *PYRALIDIA DESERTA*, Felder, = ? *Lithosia nexa*, Boisduval, Lép. de Californie, (1868-9).
- Fig. 25. *Dichromia Nietneri*, Felder, = *SCAPTESYLE BICOLOR*, Cat. Lep. Het. B. Mus., supp., p. 182, (1864).

- Fig. 26. *PTYCHOGLENE ERYTHROPHORA*, Felder, = *Lithosia miniata*, B. Mus. cabinet, *new*. Cat. Lep. Het. B. Mus., p. 512, (1854), which = *HYPOPREPIA FUCOSA*, p. 487, (1854).

PLATE 107.

- Fig. 5. *Agarista Moorei*, Felder, = *EUSEMIA MOOREI*, Boisduval Mon. des Agaristides.
- Fig. 6. *AGARISTA LINDIGII*, Felder, belongs to the genus *Phasis*, Walker, and is near *JOSIA SEPARATA*, Walker, 1645, (1856).
- Fig. 8. *Agarista Batesii*, Felder, = *PHASIS NOCTILUX*, Walker, Cat. Lep. Het. B. Mus., p. 312, (1854).
- Fig. 10. *Agarista ægoceroïdes*, Felder, = *EUSEMIA TRANSIENS*, Walker, sp., Cat. Lep. Het. B. Mus., p. 1588, (1854). This insect with several others included in the same genus, must be separated from *METAGARISTA*, Walker, as they differ in the form of the antennæ from those organs in the generic type *M. TRIPLÈNOIDES*, Walker. The latter insect is near *PAIS*, Hübner, while the others with simple antennæ are related to *EUDRYAS*, Boisduval, from North America. For the species thus separated I would propose the name *SEUDYRA*, with the *EUSEMIA TRANSIENS*, of Walker, as the type. Cat. Lep. Het. B. Mus., p. 1588, (1856).
- Fig. 14. *ÆGOCERA RUBIDA*, Felder, judging by the figure, appears to differ little from Walker's *Æ. MAGNA*, if it be not identical, and the types of this in the cabinet are scarcely distinguishable from those labelled *Æ. Latreillii*, H.S.
- Fig. 17. *Charilina intercis*, Felder, = *CHARILINA AMABILIS*, Cat. Lep. Het. B. Mus., p. 516, (= *Ægocera ? amabilis*, p. 58, loc. cit.).
- Fig. 18, 19, 20. *Tyndaris latifica*, Felder, = *CALLIDULA ERYCINATA*, of the British Museum cabinet and catalogue.
- Fig. 28. *Callidula erycinoides*, Felder, = *CALLIDULA EVANDRUS*, of the British Museum cabinet and catalogue.